Presentation to the SITAC Meeting

July 21,2014

Brynhild Haugland Room

State Capitol Building

North Dakota
Information Technology Department

Agenda

Time	Topic	Presenter
1:00	Welcome / Opening Comments	Mike Ressler
1:05	EA Waivers and Standards	Jeff Quast
1:15	General Update: Cyber Insurance Interim Studies Legislative Bill Drafts	Mike Ressler
1:30	IT Vendor Pool Results	Pam Schafer
1:40	Cloud Strategy	Dan Sipes
2:00	BREAK	
2:10	DHS Eligibility System Modernization	Mark Molesworth / DHS
2:15	IT Projects - Successful Processes	Mark Molesworth
2:35	ITD 2015-17 Budget Rates	Dan Sipes / Mike Ressler
2:55	Open Discussion / Closing Comments	Mike Ressler

Welcome / Opening Comments

New SITAC Members

Ryan Rauschenberger – Tax Commissioner

Cheri Giesen – ND Job Services Executive Director

Jeff Quast, Program Administrator

Enterprise Architecture

Enterprise Architecture Standards

- Desktop Search
  - Rescinded

- Employee Security Awareness
  - Minor changes due to cyclical review

- Email
  - Created to combine/replace 2 Groupware standards
  - More accurately reflects modern use of Email
  - Some language moved to an ITD SLA

- Remote Access
  - Now requires MFA and VPN for remote access to sensitive data as defined by an agency

Enterprise Architecture Approved Requests for Exceptions

<u>Dept. of Human Services</u> – to not use an nd.gov domain for the Parents Lead website – (expires end of life of existing web site)

<u>Office of Management and Budget</u> – to not use the ND Login for the Candidate Gateway / Talent Acquisition Manager modules of PeopleSoft (expires/revisited one year after implementation)

<u>Secretary of State</u> – to not use the ND Login for the implementation of Online Campaign Finance Disclosure – (expires June 30,2015)

<u>Dept. of Emergency Services</u> – to not use the ND Login for the ND Special Needs Registry – (expires at End of Application)

Enterprise Architecture Approved Requests for Exceptions

<u>Parks and Recreation</u> – to use a generic NDGOV account for shared use of Point of Sale applications – (expires when the standard is updated)

<u>Office of the Attorney General</u> – to not use the ND Login for the lottery's Games Management System – (expires when the current contract expires)

<u>Dept. of Financial Institutions</u> – to allow 3 email users to receive .zip file attachments from NCUA – (expires when standard is changed)

<u>Dept. of Emergency Services</u> – to not use the ND Login for the Emergency Management Grants process – (expires upon enhancement of the ND Login process)

Questions?

Mike Ressler
CIO

Cyber Insurance

Interim Technology Studies

1) **Desktop Study – Eide Bailly   (ITD)**
   http://www.nd.gov/itd/files/publications/2013-desktop-study.pdf

2) **Digital Archives Study – Tournesol   (ITD)**

3) **Data Center Consolidation – UmmelGroup   (OMB)**

4) **DPI / ITD Technology Employee Review – Eide Bailly   (DPI)**

Legislative IT Committee Meeting
on June 18, 2014

Committee Passed 1 Bill Draft:

1) Implement the Recommendations of the Eide Bailly Desktop Support Study

Committee Proposed 2 Bill Drafts:

1) Implement the recommendations of the UmmelGroup Study (removes OMB's ability to give agencies a waiver from hosting with ITD)

2) Implement the recommendations of the UmmelGroup Study and remove the exemption of the Attorney General's Office from hosting in the ITD Data Center

4201 Normandy Street North
Move-In Date: August 1st

Pam Schafer

IT Professional Services Contract Pool

- February 2014 – Released RFP

- Agencies staff involvement
  - 11 agencies along with ITD participated in the Technical Category review process
  - Thank you to all agencies that helped!

- July 2014 - Contracts were awarded to selected vendors
  - 55 vendors awarded contracts out of 67 vendor proposals

IT Professional Services Contract Pool

- OMB (State Procurement) extended existing contracts based on agencies' open work orders

IT Professional Services Contract Pool

- State Contract 095 is listed on ND State Procurement Office websites online system
  - https://apps.nd.gov/csd/spo/services/bidder/main.htm
    - Select List Contracts and search for Number 095 Contract
  - 2014-2016 Contract Information and Rates
  - Work order form and change order form are located on this site
  - ITD reviews work orders > $25,000
  - Work orders > $250,000 (an agency must issue a work order request to a minimum of three of the awarded vendors)

Dan Sipes
Deputy CIO

State of North Dakota Private Cloud
ITD Managed (on premise)

SaaS

Software as a Service

Prior layer plus Data, Applications

| Exchange | SharePoint | FileNet |

PaaS

Platform as a Service

Prior layer plus Middleware, Runtime

| Oracle | SQL | ADABAS/DB2 |

| File and Print |

Managed IaaS

Managed Infrastructure as a Service

Prior layer plus the OS

| Windows Servers | Linux Servers | AIX Servers |

| AS/400 | z/Series Server |

| Storage Area Network | Network Attached Storage | Replication/Data Backup |

IaaS

Infrastructure as a Service

Data Center Network, Storage, Servers, Virtualization

ITD does not offer this - we are evaluating a service in response to the Ummel Group Report

Potential Offering: Server images with no pre-loaded OS – OS admin level access

Underlying Infrastructure

Identity Management Infrastructure - Single Credential Authentication and Authorization   (Active Directory)

Centralized Security, Logging and Monitoring

Protected/Resilient State Network

Disaster Recovery Capability and High Availability

External Cloud Offerings
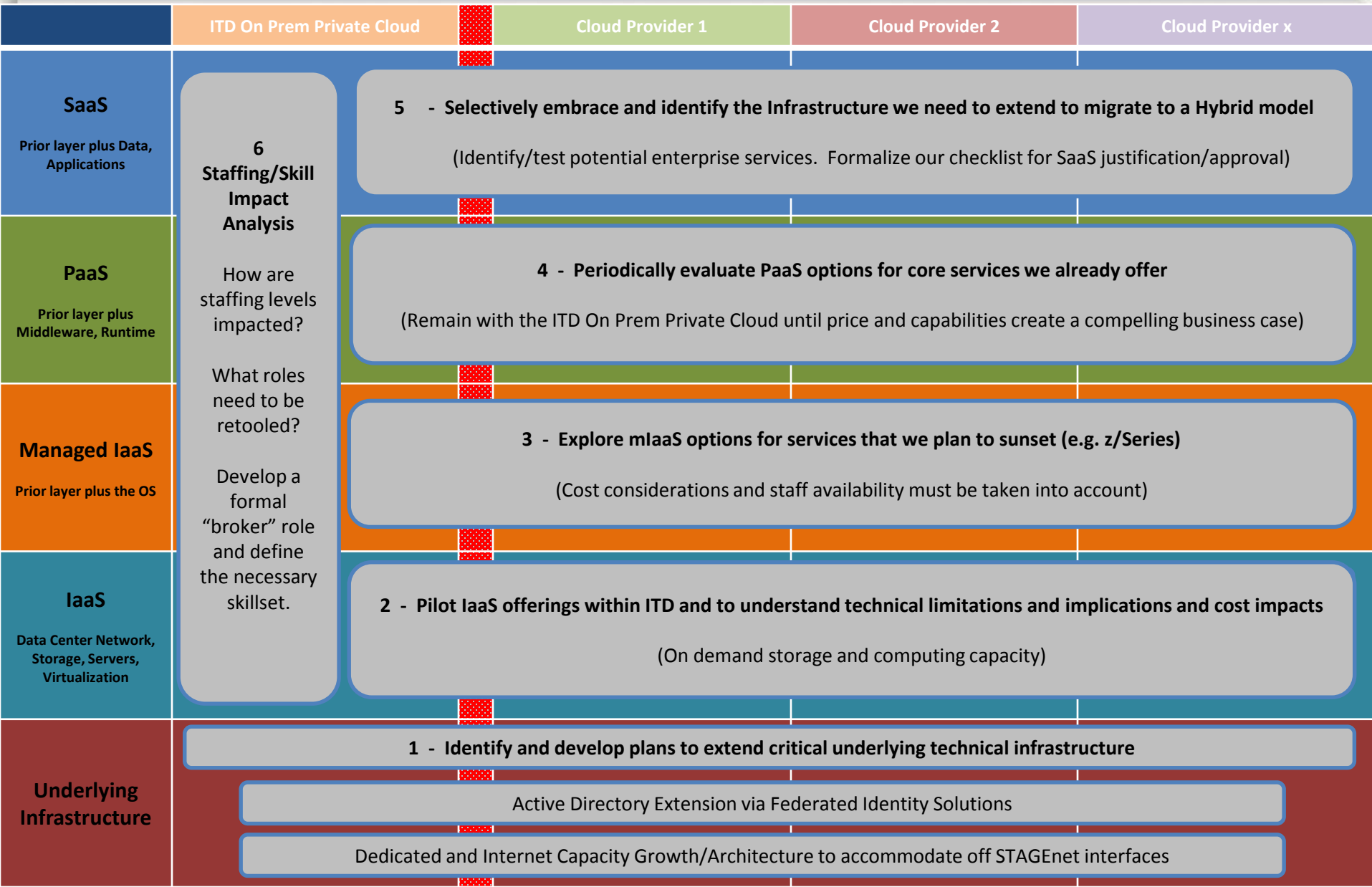## ITD will serve in a "Cloud Broker" role for any External Cloud Services

	Cloud Provider 1	Cloud Provider 2	Cloud Provider x
SaaS **Software as a Service** **Prior layer plus Data, Applications**	Any SaaS agreements require a Waiver – may allow in some instances (ITD serves as the broker) (ITD needs to develop criteria)		
	WyCAN	BND Apps	Exchange?
		PowerSchool?	SharePoint?
PaaS **Platform as a Service** **Prior layer plus Middleware, Runtime**	Any PaaS agreements will be approved, contracted and managed by ITD		
	Office 365		
Managed IaaS **Managed Infrastructure as a Service** **Prior layer plus the OS**	Agencies are not allowed to purchase mIaaS – must get these service from ITD		
		z/Series Server	
IaaS **Infrastructure as a Service** **Data Center Network, Storage, Servers, Virtualization**	Agencies are not allowed to purchase IaaS – must get these service from ITD		
	ITD may buy IaaS service externally making our cloud a Hybrid Cloud		
Underlying Infrastructure	How do we securely extend/expose our Identity Management Infrastructure (Active Directory) to multiple cloud providers?		
	Who is responsible for centralized reporting for activity occurring outside of the state data center?		
	How does growth in the external cloud impact the network infrastructure? How is DR impacted?		

Hybrid Cloud Future
Initiatives

	ITD On Prem Private Cloud	Cloud Provider 1	Cloud Provider 2	Cloud Provider x
SaaS Prior layer plus Data, Applications	**6** **Staffing/Skill Impact Analysis** How are staffing levels impacted? What roles need to be retooled? Develop a formal "broker" role and define the necessary skillset.	**5** - Selectively embrace and identify the Infrastructure we need to extend to migrate to a Hybrid model (Identify/test potential enterprise services. Formalize our checklist for SaaS justification/approval)		
PaaS Prior layer plus Middleware, Runtime		**4** - Periodically evaluate PaaS options for core services we already offer (Remain with the ITD On Prem Private Cloud until price and capabilities create a compelling business case)		
Managed IaaS Prior layer plus the OS		**3** - Explore mIaaS options for services that we plan to sunset (e.g. z/Series) (Cost considerations and staff availability must be taken into account)		
IaaS Data Center Network, Storage, Servers, Virtualization		**2** - Pilot IaaS offerings within ITD and to understand technical limitations and implications and cost impacts (On demand storage and computing capacity)		
Underlying Infrastructure	**1** - Identify and develop plans to extend critical underlying technical infrastructure Active Directory Extension via Federated Identity Solutions Dedicated and Internet Capacity Growth/Architecture to accommodate off STAGEnet interfaces			

SaaS Waiver Criteria
Not a complete list

	ITD On Prem Private Cloud		Cloud Provider 1	Cloud Provider 2	Cloud Provider x
SaaS **Software as a Service** **Prior layer plus Data, Applications**					
PaaS **Platform as a Service** **Prior layer plus Middleware, Runtime**					
Managed IaaS **Managed Infrastructure as a Service** **Prior layer plus the OS**					
IaaS **Infrastructure as a Service** **Data Center Network, Storage, Servers, Virtualization**					
Underlying Infrastructure					

Any SaaS agreements require a Waiver – may allow for specific business cases

- Authentication/Authorization impact
  (How many credentials should state users have?)

- Network impact – latency/bandwidth/QOS requirements

- Interfacing applications/data integrations

- Cost drivers that may cause a fluctuation in anticipated recurring costs
  (e.g. data transfer rates)

- Who is ultimately responsible for the security of the data/app?
  (Vendor/Agency/ITD? Clearly delineate the security role of each party)

- What are Vendor/Agency/ITD roles for troubleshooting SaaS performance issues?
  (At point the SaaS enters our network demarc backward?)

- Records Management requirements

- Contract Terms
  (Common items that concern ITD or AG)

High Level Cloud Service Summary

- IaaS – Infrastructure as a Service - (Amazon S3, Rackspace)
  PaaS – Platform as a Service - (Microsoft Azure)
  - ITD provides these services. When external cloud services are necessary ITD will procure and manage.

- SaaS – Software as a Service
  - These solutions require a waiver from OMB/ITD since they include embedded hosting services. (NDCC 54-59-22)
  - Sample of items considered
    - Authentication and Authorization requirements
    - Interfacing applications
    - Network impact
    - Security and DR Requirements

Break

Project Reviews

Paper Reviews:

- ND Department of Commerce/Tourism – Website Migration

- ND Department of Health – Women, Infants, and Children Electronic Benefits Transfer

Department of Human Services

Causal Factors

- <u>Scope</u>: *The scope of work for the construction of the Affordable Care Act requirements (Phase I of the project) was underestimated.*

- <u>Resources</u>: *Inability of ITD to hire the contract resources at the level originally estimated. This impacted the development of the system.*

- <u>Quality</u>: *ITD QA team's review resulted in essential and appropriate revisions to the Analysis artifact that delayed requirement finalization; functional and unit testing of program code caused system integration testing to also exceed estimated time schedules.*

Lessons Learned

- Budget cost and time estimates provided by ITD needed to be adjusted after detail requirements had been finalized.
  - Difficult to estimate effort level in advance when dealing with a new program and federal requirements that were not finalized

- Contingency solution was anticipated to be short- term:
  - Not well designed for long-term use (18 months)
  - Impacting daily workloads as well as assigned project subject matter experts

Recovery Strategy

- DHS Added contract and temporary staff to assist with managing contingency work.

- Transitioned from an "assessment state" to a "determination state".

- Modified the current online application process to be ACA compliant in order to reduce paper applications.

- Looking at other state systems that are in production and planning to release an RFP to explore options.

- ITD added project management staff to ensure the schedule is kept updated with actual hours and percent of work completed.

Successful Projects / Processes

NDIIS – Interoperability Overview

- As of May 2014 the NDIIS is interoperable with the electronic medical records of 203 individual provider locations and the North Dakota Health Information Network (NDHIN).

    - 175 providers are connected to the NDIIS via the NDHIN.

    - The providers already connected represent 63% of all transactions reported to the NDIIS.
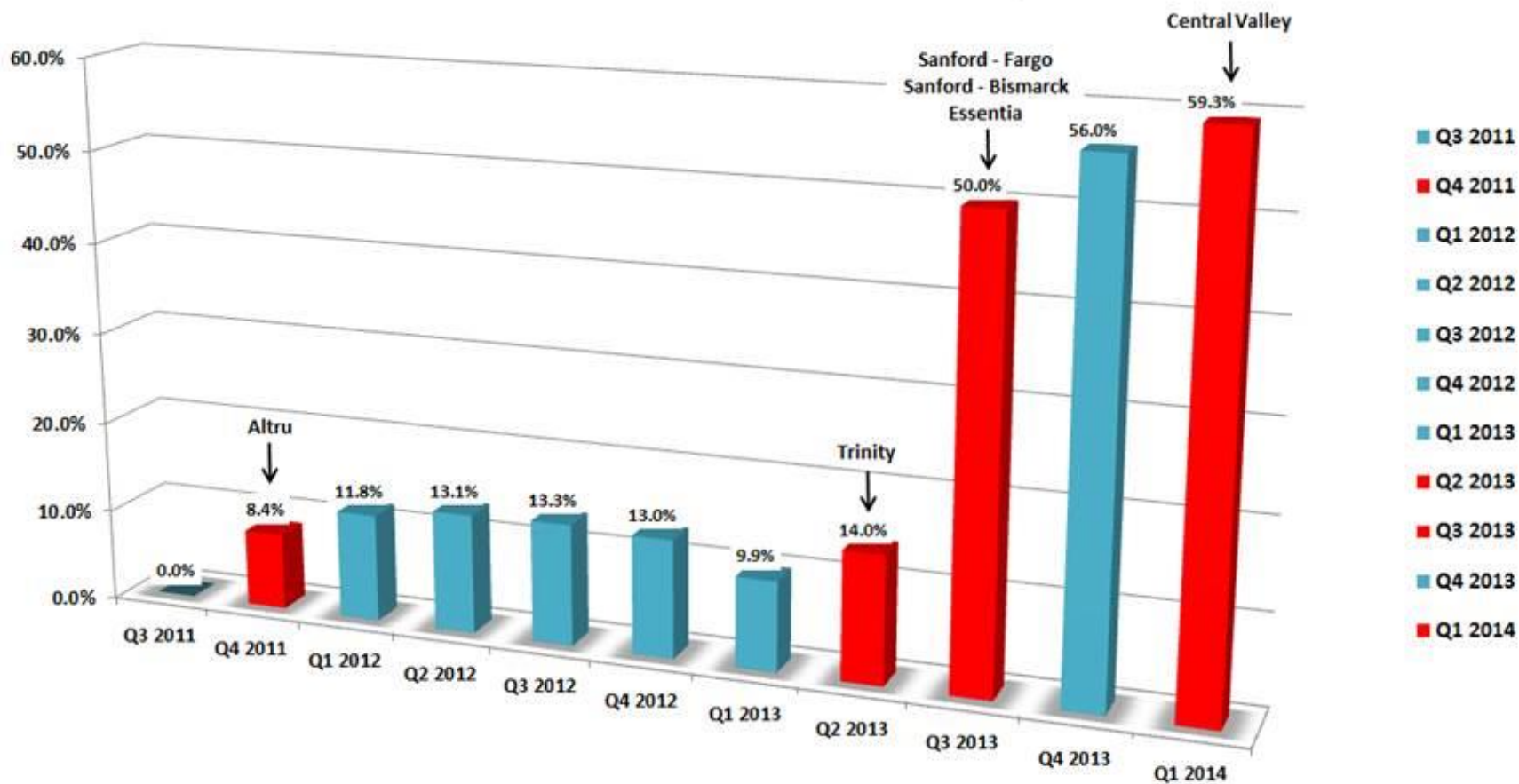
NDIIS – Interoperability Overview

- Data collected during Q4 2013 indicates the participating providers in total submitted an average of 76,375 messages per month. Using an average wage of $28 and a 60 to 90 second per immunization model, participating providers have saved between $35,896 and $53,463 per month or $430,752 to $641,550 per year across the state.
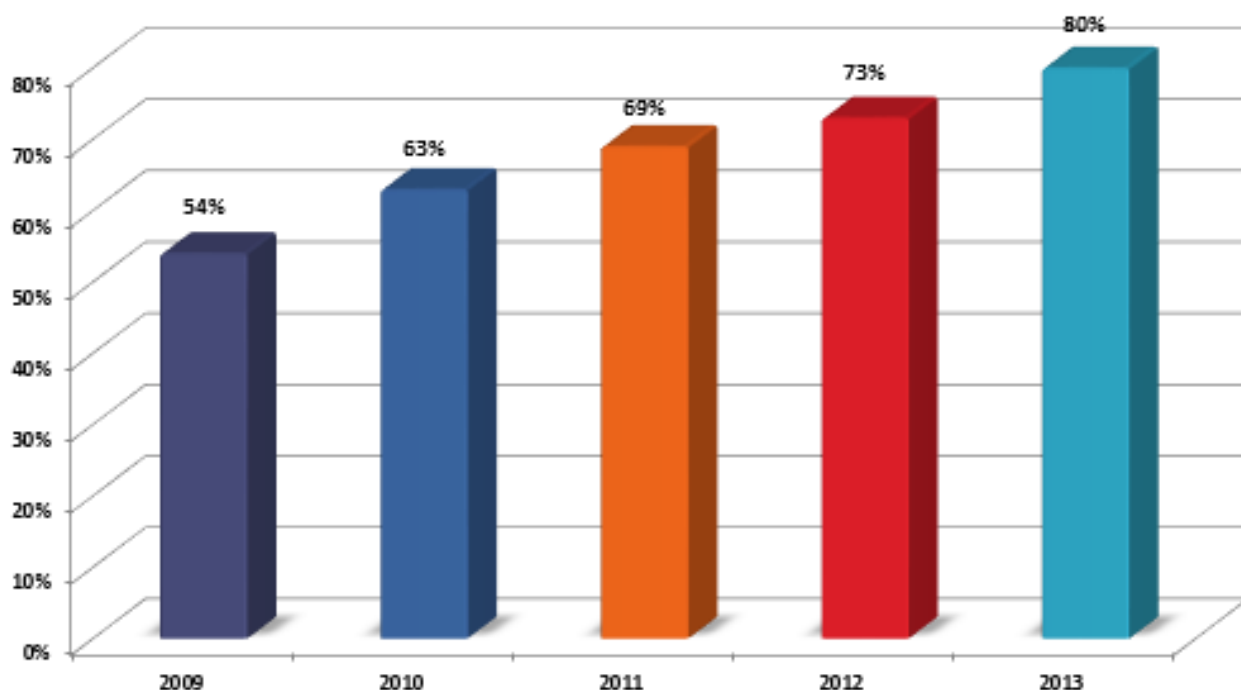
The Percent of North Dakota adults 19 and older in the NDIIS

Be Prepared

- Understand your business processes, including any customer based processes

- Keep requirements stable and consistent

- Document specifications fully

Pilot

- Start with a single pilot site or staged implementation

- Contains and minimizes impact of issues

- Conduct lessons learned and use them
  - Ongoing lessons learned and adjustments

Adapt

- Adapt project to match lessons learned
    - Formalized onboarding processes
    - Automated testing site
    - Condensed specification guide
    - Provider readiness assessments

Relationships

- Vendor/customer relationships
  - High frequency of communication
  - Early and often

- Frequent project team status meetings

- Partnerships
  - ND Health Information Network
  - Noridian Mutual Insurance Company (BCBSND)
  - Information Technology Department

- Develop trusting relationship with project manager

Project Management

- Objective and unbiased project manager

- Facilitating communication between vendors, customers, and partners

- Change control

- Issue management

- Budget/schedule control (variance)

Dan Sipes
Deputy CIO

ITD 2015-17 Budget Rates

➢ New Rates will generate an estimated $3,300,000 additional revenue to ITD for the biennium

4 Primary Service Categories

❖ Software Development   = $ 3,300,000
❖ Computer Hosting   = $ 1,000,000
❖ Network / Telephone   = $ 400,000
❖ Pass Through   =   ($ 1,400,000)

➢ $20 Million Bond for ConnectND is Paid in Full July, 2014

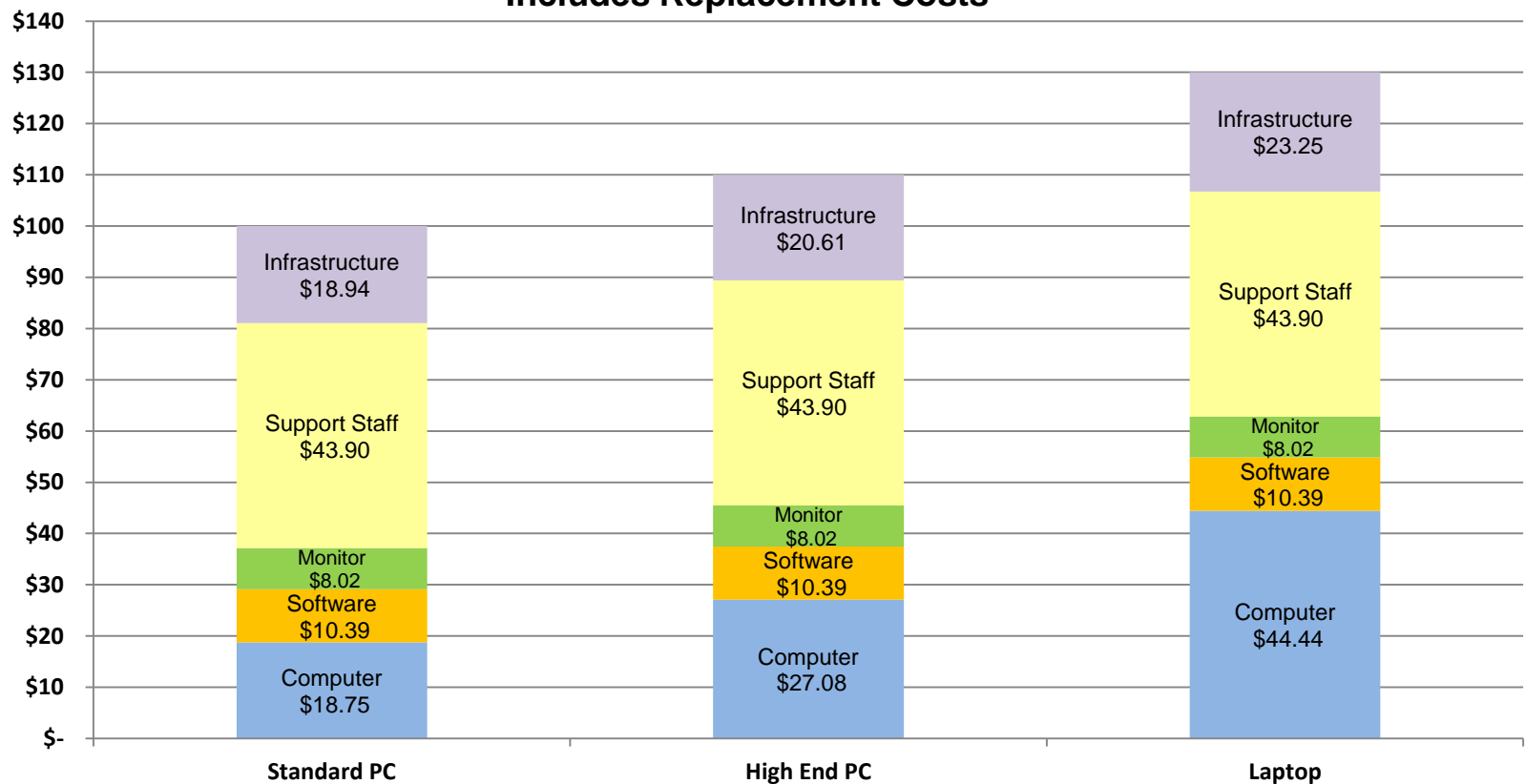❖ Cost Allocation was 71% Higher Ed / 29% State Gov't

ITD 2015-17 Budget Rates

Department #	Agency Name	$$$ Increase / (Decrease)
110.0	OMB	330,042
112.0	ITD	249,584
160.0	Legislative Council	103,967
180.0	Supreme Court	104,576
201.0	Public Instruction	147,322
215.0	ND University Systems	(1,358,792)
312.0	State Hospital	107,093
325.0	Human Services	2,417,311
485.0	Workforce Safety & Insurance	124,386
801.0	Department of Transportation	814,972

ITD 2015-17 Desktop Service Rates
Device with Standard Monitor
Includes Replacement Costs

Standard PC
- Infrastructure $18.94
- Support Staff $43.90
- Monitor $8.02
- Software $10.39
- Computer $18.75

High End PC
- Infrastructure $20.61
- Support Staff $43.90
- Monitor $8.02
- Software $10.39
- Computer $27.08

Laptop
- Infrastructure $23.25
- Support Staff $43.90
- Monitor $8.02
- Software $10.39
- Computer $44.44